

# **National Air Quality Forecast System (AQFS) Ozone (O<sub>3</sub>) Forecast Graphic Display Product Description Document (PDD)**

## **Part I - Mission Connection**

a. Description of Product - The National Weather Service's National Air Quality Forecast System (AQFS) Ozone (O<sub>3</sub>) Forecast Experimental Graphic [display](#) is a web-based presentation of gridded forecast O<sub>3</sub> guidance originating from the Environmental Modeling Center (EMC) of the National Environmental Prediction (NCEP). The ozone data is displayed for a domain covering the northeast US for 1-hour and 8-hour averages. Additional information on the AQFS is available [here](#).

The O<sub>3</sub> grib files are produced from the Eta-12 CMAQ (Community Multi-scale Air Quality) modeling system that is run twice daily from the 0600 and 1200 Universal Time Coordinate (UTC) cycles and posted as graphic images to [NWS](#) and [EPA](#) web sites per interagency agreement. These graphic images will display forecast time projections out to a minimum of 30 hours (0600 run) to a maximum of 48 hours (1200 run). Initially the domain will cover the northeast US for just O<sub>3</sub>. Additional coverage and pollutants will be added in future years.

b. Purpose – AQFS has been developed in support of a Congressional mandate (H.R. Energy Policy Act of 2002 Senate Amendment) to implement an operational air quality forecast system to benefit public health. DOC/NOAA and EPA formed a partnership to transfer scientific advances in air quality monitoring and forecasting into NCEP's world class modeling realm. AQFS guidance will be used by state and local agency forecasters, as well as the media and private sector meteorologists as input to their AQ forecasts providing higher resolution and greater coverage (12 km general coverage) than the approximately 300 specific locations nationwide provided by [EPA's AIRNow](#) site. The general public health will benefit from improved forecasts and mitigation of harmful impacts. Expanded coverage and additional forecast pollutants such as particulate matter will be produced as the science and NOAA capabilities permit and in accordance with growing user needs.

c. Intended Audience - The NWS graphical AQ guidance products are intended for use by state and local agency forecasters, as well as the media and private sector meteorologists. The general public who may be adversely impacted by pollutants will also have access to the data via graphical output on multi-agency web sites.

d. Presentation Method - The data are presented as web-based graphic images. The AQFS provides ground level ozone (O<sub>3</sub>) for a domain covering the northeast US. In the future, the domain will expand to cover the entire US.

e. Feedback - We are always seeking to improve our products based on user feedback. For general questions regarding the National Air Quality Forecast System, please email: paul.stokols@noaa.gov

## **Part II - Technical Description**

- a. Format & Science Basis – A description of the AQFS is provided [here](#).
- b. Product Availability – The AQFS O<sub>3</sub> graphics are produced twice daily based on the 0600 and 1200 UTC model cycles and are available at 0900 and 1330 EDT, respectively. Real-time O<sub>3</sub> graphics are posted to the [NWS](#) site.
- c. Other Details – A future AQ directive will be developed.